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Published in:
Criminal Behaviour and Mental Health

DOI:
10.1002/cbm.715

Publication date:
2009

Criminal Behaviour and Mental Health
19: 94–108 (2009)
Published online in Wiley InterScience
(www.interscience.wiley.com) DOI: 10.1002/cbm.715

Association of criminal convictions between family members: Effects of siblings, fathers and mothers

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ABSTRACT

Background *Crime runs in families. Previous research has shown the existence of intergenerational transmission of criminal behaviour.*

Aim *The aim of the present study was to investigate the extent to which variation in criminal convictions may be explained by the criminality of siblings and by the intergenerational transmission of criminal behaviour.*

Method *Data from the Dutch Criminal Career and Life-course Study (CCLS) were used to analyse cross-tabulations and to conduct multi-level logistic regression analyses.*

Results *The results indicate that criminal convictions of other family members are indeed correlated with individual conviction risk. The criminal history of siblings is most strongly correlated with the convictions of focal respondents. Results furthermore show that parental convictions only account modestly for the association of criminal convictions between siblings.*

Conclusions *These findings indicate that a direct influence between siblings is plausible, providing support for learning or imitation theories. Copyright © 2009 John Wiley & Sons, Ltd.*

Introduction

Crime runs in families. Farrington et al. (1996) revealed that a very small proportion of families were responsible for a majority of all delinquent acts committed. Specifically, approximately 10% of families in the Cambridge Study in Delinquent Development (CSDD) generated 64% of all delinquent acts. Research using the

Pittsburgh Youth Study (PYS) also revealed a great deal of crime-clustering within families (Farrington et al., 2001). These results indicated that the siblings in 12% of families were responsible for 59% of all of the delinquent acts committed by the sample. Other research demonstrates that criminal convictions of siblings are highly correlated (Haynie and McHugh, 2003; Rowe and Gulley, 1992). In short, having a family member with a criminal history – parents and siblings alike – substantially increases the likelihood of a person committing delinquent acts. In the present paper, we focus on parental and sibling convictions as explanations of variations in individual criminal behaviour. This will give us more insight into how the criminal behaviour of one nuclear family member is related to the criminal behaviour of other members. It will also allow us to study the intergenerational transmission of criminal behaviour.

The paucity of research inquiry into the influence of families on criminality has numerous causes.[1] The most prominent cause is that the data requirements to investigate the relationship are daunting. First, we require a longitudinal study providing information on the development of criminal behaviour of parents as well as their children. Second, a prospective study design is needed, as such a design does not select upon the dependent variable (in this case, criminal behaviour of the children). Convicted as well as non-convicted parents should be included in the design. Third, a very long period of observation is required in order to analyse both generations until adulthood (a time span of at least 50 years). Fourth, we need data on the convictions of all the siblings within a family. The present study is advantageous because we were able to meet all these requirements.

Influence of siblings

In past decades there have been many studies of the influence of the criminal behaviour of brothers and sisters on individual criminal behaviour. Most of these studies rely on self-reported data and relatively minor offences (e.g. shoplifting and drug abuse). Many of these studies also analysed the criminal behaviour of siblings and friends simultaneously (Haynie and McHugh, 2003; Slomkowski et al., 2001). The existing research shows that the criminal behaviour of siblings is strongly correlated (Fagan and Najman, 2003; Haynie and McHugh, 2003; Rowe and Gulley, 1992). Correlations are usually stronger among same-sex siblings (0.45 to 0.50) than among opposite-sex ones (0.27) (Rowe and Farrington, 1997).

[1] Farrington et al. (1996) acknowledge that the training of American criminologists could be one such cause. Given its close historical ties to the discipline of sociology, American criminology, for many years, largely ignored research on the genetic origins of human behaviour. A similar reluctance to perform research into biosocial causes of criminal behaviour may be seen among Dutch criminologists (Blokland et al., 2005).

DOI: 10.1002/cbm

Different explanations for the apparent sibling similarity in delinquency are often tested in the literature. For example, the quality of the bonds of siblings could be an explanation for their resemblance in delinquent behaviour (Slomkowski et al., 2001). Additionally, peers who are mutually shared by siblings might account for a portion of the cross-sibling correlation in delinquency (Haynie and McHugh, 2003; Stormshak et al., 2004). Rowe and Farrington (1997) analysed the criminal behaviour of siblings relative to the criminal behaviour of other family members and reported a sibling effect that was independent of parental criminal behaviour.

In the literature, two prominent explanations are often proffered for sibling similarity in criminality. The first is that brothers and sisters learn attitudes and behaviours directly from each other. For example, younger siblings could learn norms, values and techniques (i.e. 'definitions favourable to law violation') from their older brothers and sisters. Also, siblings may commit delinquent acts together or in one another's company (Warr, 1993). Siblings might thus provide modelling and reinforcement of delinquent behaviour. The second prominent explanation is that the correlation between the convictions of siblings is spurious. For example, mutual friends might account for at least part of the association, referring to the fact that siblings might have a tendency to interact with the same delinquent peers, who are themselves the source of the association in criminal behaviour between siblings. Of course, siblings living in the same household are also exposed to the same parent(s). The similarity in their behaviour might therefore also be explained by parental criminal behaviour.

Intergenerational transmission

There are very few empirical studies that have investigated the intergenerational transmission of criminal behaviour. This limited research, however, does demonstrate an association between the criminal acts of parents and the subsequent delinquent behaviour of their children. For a more detailed and complete overview of these studies, see Van de Rakt et al. (2008). To date, the CSDD represents the most important data source used to examine intergenerational continuity in criminal behaviour. The CSDD has shown a strong correlation between criminal behaviour of parents and criminal behaviour of their children (e.g. Smith and Farrington, 2004). Rowe and Farrington (1997) reported a correlation of 0.43.

Several other studies also show significant and strong correlations between the criminal behaviour of fathers and the delinquent behaviour of their children. Gorman-Smith et al. (1998) used data from the Chicago Youth Development Study (CYDS) to show that persistent delinquents tend to be reared in families with widespread deviant conduct. Research using the PYS (Farrington et al., 2001) reveals that fathers are the most important relative when it comes to predicting the criminal behaviour of their sons. Thornberry et al. (2003) reported on the Rochester Youth Development Study (RYDS), finding that a father's

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criminality exerted a direct effect on the delinquency of his children, while for mothers this relation was mediated through parenting strategy.

There are several explanations why convictions are so readily transmitted from parents to their children. Farrington et al. (2001) distinguished six different explanations for intergenerational resemblance. These explanations not only provide insights into the intergenerational transmission of crime, but may also be used to predict the extent to which parental convictions can explain the association between convictions of siblings. The first explanation is that criminal behaviour is only a small part of the transmitted behaviour. A variety of undesirable behaviours, such as poverty, teenage pregnancy and living in deprived neighbourhoods, is transmitted from one generation to another. Farrington et al. (2001) refer to this explanation as the 'cycle of deprivation'. The second explanation emphasizes the mechanism of 'assortative mating'. Men with a criminal history have a higher likelihood of marrying and procreating with women who also have a criminal history. These women will be less fit to raise children, putting their children at risk and increasing the chance that they themselves become involved in crime.

The third explanation for intergenerational transmission is a process of imitation. Quite simply, children learn criminal behaviour by observing and modelling the behaviour of their parents. The fourth explanation points to a genetic cause. Criminal parents may have some genetic predisposition for criminal behaviour, a predisposition that is then transmitted from one generation to the next. The fifth mechanism is environmental: Criminal parents tend to live and raise their children in the least-favourable social environments, which increases the children's chances of criminal behaviour. The sixth and final mechanism suggests that some families are monitored more intensively by law enforcement bodies because of an official bias towards known criminal families. In other articles, a process of labelling is also suggested as a possible mechanism, whereby children born to criminal fathers have a higher chance of perceiving themselves as criminals, a 'self-fulfilling prophecy' that results in the commission of crimes (Rowe and Farrington, 1997).

The foregoing mechanisms offered by Farrington et al. (2001) for parent–child similarity in crime commission have implications for our understanding of sibling similarity in crime. In many instances we may predict that parental criminality would fully account for the correlation of convictions between siblings. For example, if the causes of criminal behaviour are genetic then sibling resemblance in crime is attributable to the fact that the criminal genotype of parents is passed on to children. On the other hand, if the mechanism is environmental then the poor social and economic circumstances of parents – circumstances in which all children are reared – should largely account for the association in convictions between siblings. However, if learning or imitation is the causal mechanism underlying the intergenerational transmission of criminal behaviour then we would expect that (at least) part of the correlation between convictions of siblings

DOI: 10.1002/cbm

will remain intact even when parental convictions are taken into account. In other words, children will learn from and imitate their parents, but, because of relative closeness in age, they might more effectively learn from and imitate their siblings (possibly also via mutual friends).

Method

Data from the Criminal Career and Life-course Study (CCLS), established by the Netherlands Institute for the Study of Crime and Law Enforcement (NSCR), were used. These data contained information on a representative sample of 4% of all cases of criminal offences that were tried in The Netherlands in 1977 (Blokland, 2005; Nieuwbeerta and Blokland, 2003). Extracts from the general documentation files (GDF) of the Criminal Record Office ('rap sheets') were used to construct the entire criminal careers of 4615 research subjects (344 women and 4271 men). The GDF contain information on every criminal case registered with the Public Prosecutor's Office by the police. These abstracts were supplemented with information that would not normally be mentioned owing to periods of limitation. Specifically, in the Netherlands a person is not given a 'blank slate' upon becoming an adult. Individual offending rates are measured annually, beginning when the offenders are 12 years of age (the minimum age of criminal responsibility in the Netherlands) up to the year 2002. These data therefore contained information on all recorded offences committed from age 12, encompassing the juvenile and adult criminal careers.

The extracts from the GDF give information about only those crimes for which an individual has been convicted, meaning that these data only provide information on offences that have been judicially proven. We also excluded non-criminal law offences (traffic and economic offences, for example). The criminal acts analysed in the present paper are thus all criminal law offences, ranging from simple theft (e.g. shoplifting) to manslaughter and murder. This information is supplemented with population registration data on all 4615 research subjects up to 2003 (e.g. dates of marriages, fertility history and dates of deaths). In this article we report on data from the 4271 men. Population registration data showed that 3590 (84.1%) of these men had children, and that these men fathered 6952 children (mean 1.94 children) whom had at least reached the age of 12 by 2003 (the end of our observation period).

The CCLS data are unique and well-suited to studying the intergenerational transmission of crime. Yet an important disadvantage is that, by construction, all of the men in the sample were convicted at least once; that is, in 1977. To overcome this limitation we also collected data on a matched control group of men who were not convicted. While searching military records for purposes that lay outside the scope of this article (Bersani et al., 2009; Van Schellen and Nieuwbeerta, 2007), we were able to randomly select a group of Dutch men born on exactly the same days as the men in the research group (Van de Rakt and

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Table 1: Descriptive statistics on the research and control groups

	Total sample		Total	Selection (with information on mothers)		Total
	Control group	Research group		Control group	Research group	
Fathers						
No. of individuals with children aged at least 12	477	3027	3590	458	2271	2729
Mean age in 2003	53.6	56.9	55.1	53.7	57	56.6
Mean no. of delinquent acts up to age 55	0	10.3	8.4	0	10.1	8.4
Children						
No. of children aged at least 12	1066	6952	8018	955	4876	5831
No. of boys	562	3494	4056	499	2448	2947
No. of girls	504	3458	3962	456	2428	2884
No. of convicted children	119	1967	2086	104	1403	1507
Mean age in 2005	28.6	30.9	30.7	28.7	30.5	30.3
Mean no. of delinquent acts up to age 40	0.3	1.8	1.6	0.2	1.7	1.5
Mothers/partners						
No. of individuals				485	2459	2944
Mean age in 2003				52.6	52.6	52.6
Mean no. of delinquent acts up to age 55				0.1	0.5	0.1

Nieuwbeerta, 2005). This resulted in a matched sample of 824 Dutch men. We excluded 134 men who had been convicted of a crime, so that the matched control group includes 690 men, of whom 575 (83.3%) had children. These 575 control men fathered a total of 1066 children (mean 1.85 children) aged at least 12 in 2003.

In the present paper, we are also interested in investigating the influence of mothers on the delinquent behaviour of children. The criminal records of all the partners of the original research subjects and the matched control subjects were compiled (Van Schellen and Nieuwbeerta, 2007). As most fathers were, at one point, married to the mother(s) of their child(ren) we were able to link the criminal histories of mothers to the criminal histories of their offspring. Unfortunately, we did not have access to information about mothers who did not marry the father of their child(ren).* We were successful in locating information

* Children with mothers having valid data tend to be younger and to commit fewer offences, and their fathers commit fewer offences as well. These relationships are significant ($p < 0.01$). In light of this non-random selection, it is plausible that the empirical estimates are actually underestimates.

DOI: 10.1002/cbm

on 2944 mothers (2459 married to the original research subjects and 485 married to the matched control subjects). These mothers bore 5831 children. Table 1 provides descriptive statistics on fathers and their children from the research and control groups. In the first panel of Table 1, we present descriptive statistics for the whole sample. In the second panel we present statistics about those research subjects for whom we also have information about the mothers.

The criminal careers of the children of the offenders in the CCLS sample and the partners of the offenders in the CCLS sample were also reconstructed using abstracts from the GDF of the Criminal Record Office ('rap sheets'). The extracts from the GDF, again, give information about only those crimes for which a criminal has been convicted. We again excluded non-criminal law offences (traffic and economic offences, for example).

Results

Table 2 shows a strong relationship between the number of convictions of siblings. The relations shown in Tables 2, 3 and 4 were all tested for significance with χ^2 tests, and were found to be significant at $p < 0.01$. The rows in this table represent the number of convictions of the focal child, whereas the columns represent the mean number of convictions of the remaining siblings (i.e. all non-focal children

Table 2: Relation between mean number of convictions of siblings and number of convictions of an individual

Mean no. of convictions of siblings					
Convictions	0	0.1–1.0	1.1–5.0	>5.0	Total
Individuals					
0	83.7	68.1	56.0	46.9	73.92
1	7.2	10.4	12.6	11.0	8.87
2–5	6.0	13.8	16.8	18.2	9.94
N	4358	1247	1085	584	7274
Boys					
0	74.7	52.8	42.0	27.9	62.30
1	9.8	12.9	13.3	8.4	10.75
2–5	9.9	20.8	19.9	23.7	14.43
>5	5.5	13.5	24.8	40.1	12.52
N	2192	638	557	287	3674
Girls					
0	92.7	84.1	70.8	65.3	85.78
1	4.6	7.9	11.9	13.5	6.94
2–5	2.1	6.4	13.4	12.8	5.36
>5	0.6	1.6	3.8	8.4	1.92
N	2166	609	528	297	3600

Note: Of 8018 children, 7274 had at least one sibling.

of the same father). Note that, in this table, children without siblings ('only children') are omitted. As the siblings in the family accumulated more convictions, focal children had a far higher chance of being convicted of a crime as well. The relationship was especially strong for boys; among boys whose siblings committed (on average) more than five delinquent acts, almost three-quarters (72.1%) were convicted at least once. For girls, the corresponding figure was one-third (34.7%).

In Table 3 the relationship between the convictions of fathers and the convictions of their offspring is shown. The children of non-convicted fathers (control sample) had the lowest likelihood of conviction; only 11.2% of these children were convicted. The daughters of non-convicted fathers had far lower conviction probabilities than the sons – 4.4% compared with 17.3%. Among the children of fathers with one or more convictions (offender sample), the likelihood of at least one conviction was a minimum 20% (children whose fathers acquired only one conviction). Conviction risk increased steadily when the father was convicted for more criminal acts. As with the data on siblings, daughters had fewer convictions than sons. Nevertheless, the influence of the father on the chance of a child's conviction was the same for sons and daughters: As fathers accumulated a more extensive criminal record, the conviction risk for both sons and daughters increased.

Table 3: Relation between number of convictions of fathers and number of convictions of children

Convictions of fathers						
	0	1	2–5	5–15	>15	Total
Children						
0	88.84	79.99	74.91	68.85	61.46	73.98
1	6.47	7.51	8.79	10.79	9.65	8.87
2–5	3.85	8.40	10.04	11.16	14.74	9.98
>5	0.84	4.10	6.25	9.20	14.15	7.17
N	1066	1464	2240	1891	1357	8018
Sons						
0	82.74	67.56	63.31	54.27	48.16	62.20
1	9.61	11.13	10.75	12.25	8.81	10.68
2–5	6.23	13.81	15.00	17.18	18.94	14.72
>5	1.42	7.51	10.93	16.30	24.08	12.40
N	562	746	1153	914	681	4056
Daughters						
0	95.63	92.90	87.21	82.50	74.85	86.04
1	2.98	3.76	6.72	9.42	10.50	7.02
2–5	1.19	2.79	4.78	5.53	10.50	5.12
>5	0.20	0.56	1.29	2.56	4.14	1.82
N	504	718	1087	977	676	3962

DOI: 10.1002/cbm

Table 4 shows the relation between the criminal history of mothers and the convictions of their children. Mothers committed fewer offences than fathers (compare the column marginals in Tables 3 and 4).[2] Two-thirds of the sons who had a mother with two or more convictions were themselves convicted. For daughters, the corresponding figure was 31.5%. As with fathers, while daughters had fewer convictions than sons overall, the influence of the mother on the chance of a conviction was similar.

A causal comparison between Tables 3 and 4 shows that mothers and fathers had a very similar effect on the conviction likelihood of their children. For simplicity, consider collapsing the top panels into 2 × 2 contingency tables comparing zero convictions to non-zero convictions of parents with their offspring. The likelihood of conviction among children with a convicted father is 28.3%, compared with a corresponding figure of 45.8% among children with a convicted mother. However, it is important to observe that the baseline rate of conviction is different between these tables. That is, the likelihood of conviction among children with a non-convicted father is 12.6%, compared with 23.0% for children of a non-convicted mother. Therefore at least one conviction among fathers

Table 4: Relation between number of convictions of mothers and number of convictions of children

Convictions of mothers				
	0	1	>1	Total
Children				
0	77.01	60.37	49.26	74.16
1	8.76	13.62	12.32	9.28
2–5	8.72	15.48	19.70	9.86
>5	5.51	10.53	18.72	6.71
N	5102	323	406	5831
Sons				
0	65.31	41.22	33.33	61.69
1	11.49	14.86	10.81	11.61
2–5	13.70	21.62	24.32	14.90
>5	9.51	22.30	31.53	11.81
N	2577	148	222	2947
Daughters				
0	88.95	76.57	68.48	86.89
1	5.98	12.57	14.13	6.90
2–5	3.64	10.29	14.13	6.90
>5	1.43	0.57	3.26	1.49
N	2525	175	184	2884

[2] As this sample excludes unmarried mothers but includes unmarried fathers, these results may be biased.

DOI: 10.1002/cbm

Table 5: Spearman correlations between number of convictions of family members

	Spearman's *r*	*n*
Siblings	0.32	7274
Girls	0.29	3600
Boys	0.38	3674
Father–child	0.20	8018
Father–daughter	0.20	3962
Father–son	0.24	4056
Mother–child	0.19	5831
Mother–daughter	0.17	2884
Mother–son	0.23	2947

Note: All significant at $p < 0.01$.

increases the likelihood of a child's conviction by 124.6% (28.3/12.6) relative to fathers with no convictions. For mothers, the corresponding figure is 99.1% (45.8/23.0). In sum, either parent's conviction approximately doubles the likelihood of a child's conviction, with perhaps a modestly stronger effect of a father's conviction compared with a mother's conviction.

In Table 5 we have summarized the associations between convictions of individuals with siblings, fathers and mothers by calculating Spearman correlation coefficients for the total number of convictions. All the correlations were significant at $p < 0.01$. There were especially high correlations between the convictions of siblings (about 0.30). The association between siblings was larger than the association between fathers and children or between mothers and children (about 0.20). Moreover, all correlations were stronger for boys than for girls.

We have now established that there exists a moderately strong association between the convictions of siblings and between the convictions of parents and their children. The next step in the analysis was to investigate predictors of convictions of children between the ages of 12 and 40. In our data, children were nested within the same families, which we take into account by estimating multi-level models. In Table 6, we estimate six models by use of multi-level logistic regression for the probability of at least one conviction between the ages of 12 and 40.[3] We estimated two Models for all children combined (Models 1 and 2), and then estimated the same Models separately for male children (Models 3 and 4) and for female children (Models 5 and 6).

[3] Applying logistic regression in a multi-level design has the disadvantage that the variance at level 1 (child) is fixed at zero. The only variance component that is estimated by the model is the variance at level 2 (family).

DOI: 10.1002/cbm

Table 6: Predictors of ever being convicted at ages 12–40

	All children		Sons		Daughters	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Exp (b)	Exp (b)	Exp (b)	Exp (b)	Exp (b)	Exp (b)
Constant	0.22**	0.09**	0.22**	0.10**	0.05**	0.01**
Individual characteristics						
Woman	0.21**	0.19**				
Age (exposure)	1.02**	1.02**	1.02**	1.02**	1.02**	1.02**
No sibling	1.73**	1.42**	1.77**	1.45**	1.61	1.36
Convictions of siblings (ref no convictions)						
0–1 convictions	2.35**	1.96**	2.57**	2.14**	1.92	1.62*
1.1–5.0 convictions	4.22**	3.20**	3.98**	3.16**	4.40**	3.04**
>5.0 convictions	7.31**	4.41**	8.27**	5.02**	6.35**	3.69**
Family characteristics						
Convictions of mother (ref no convictions)						
1		2.13**		2.30**		1.91**
>1		2.25**		2.29**		2.18**
Convictions of father (ref no convictions)						
1		1.53**		1.68**		1.13
2–5		2.22**		2.12**		2.18**
5–15		2.83**		2.69**		3.40**
>15		4.01**		3.39**		5.53**
N	5381	5831	2947	2947	2884	2884
Variance level 2	0.00	0.02	0.01	0.10	0.02	0.11

* $p < 0.05$.
** $p < 0.01$.

In the first model, we controlled for the effects of sex, age and the mean number of convictions of siblings. We also controlled for the effects of being an only child by adding a dummy variable indicating that one has no siblings. The results in Model 1 show that individuals having one or more siblings who were convicted of a crime had an elevated risk of being convicted themselves. Of course, this was what we expected from the strong correlations in Table 2.[4] For example, individuals with siblings who were convicted more than five times (on average) have an odds of conviction that was over seven-fold higher than individuals with law-abiding siblings. Individuals with no siblings (only children) appeared to have a slightly higher chance of conviction than those with law-abiding siblings.

In Model 2 we controlled for parental criminal behaviour, which allowed us to ascertain the degree to which parental criminal behaviour accounted for sibling similarity in criminality. These results show that mothers and fathers had unique effects on an individual's probability of conviction. Compared with the parameters in Model 1, the influence of siblings declined by only a modest amount, and did so mostly at the high end of the mean conviction scale. For example, the partial odds ratio for having a sibling with more than five convictions declined from 7.3 to 4.4. Overall, the influence of siblings on the criminal behaviour of individuals was large, even when controlling for parental criminal behaviour. All family members (fathers, mothers and siblings) had an independent influence on the chance an individual had of being convicted. Somewhat surprisingly, however, including parental criminality failed to substantially diminish the magnitude of the relationship between sibling convictions.

In Models 3–6, we estimated the same pair of logistic models separately for male and female children. In these models, the coefficients for the impact of sibling convictions were remarkably similar for sons and daughters with the exception that low-level sibling criminality significantly increased the likelihood of conviction among sons but not among daughters. Maternal criminality significantly increased conviction risk among both sons and daughters, although the relationship was modestly stronger for sons. Low-level paternal criminality had no significant relationship with daughters' criminality, in contrast to sons' criminality. On the other hand, more extensive paternal criminality was more strongly correlated with daughters' conviction risk than sons' conviction risk. Thus, only when siblings or fathers committed a non-trivial amount of crime did the chance of a conviction for their sisters or daughters rises appreciably.

[4] Note that the variance at level 2 is close to zero. As the level-2 variance is established from the differences between families in convictions, adding sibling criminal behaviour to the model has explained away all differences in family criminality.

DOI: 10.1002/cbm

Discussion

Research shows that criminal behaviour tends to be strongly clustered within families (Farrington et al., 1996), in particular among siblings (Haynie and McHugh, 2003). The aim of the present study was to investigate the strength of the correlation between convictions of family members and an individual's own likelihood of conviction. This study contributes to the limited but growing body of research on the *inter*-generational transmission of criminal behaviour (from parent to child) as well as the *intra*-generational transmission of criminal behaviour (from sibling to sibling). Data from the CCLS – a unique, large-scale dataset with 4988 men and their 8018 children – allowed a detailed description of the nature of these relationships.

The results show a strong association of convictions between siblings. The correlation between the numbers of convictions of siblings was about 0.30, a relationship that held for male as well as female siblings. There was a less strong correlation between the criminal convictions of parents and the convictions of their children, of the order of about 0.20. Analyses also showed that parental criminality could partially account for the similarity in sibling criminality. Nevertheless, the larger part of the association between sibling convictions remains intact. Other factors are thus responsible for the resemblance of criminal behaviour among siblings. While these results provide at least *some* support for learning and imitation theories, earlier research has shown that mutual friends play an important role within the learning process.

It should be noted that, in the present research, we find somewhat weaker correlations between convictions of family members than in earlier research (e.g. Rowe and Farrington, 1997). The differences in sampling could account for the discrepancy. In the CSDD, criminal children and their families were investigated, whereas we investigated criminal fathers and their families. Also, differences between the UK and the Netherlands could play a role. We did, however, find an independent effect of siblings on the convictions of individuals, which is in line with the findings of Rowe and Farrington (1997).

The data used in this paper are unique since they stem from a large-scale, prospective, longitudinal study with a very long observation period. Nevertheless, these data also have some limitations. First, it is important to be cautious in interpreting the results because of our use of official data, which might obviously lead to an underestimation of the total number of delinquent acts. Many delinquent acts are not reported to the police or may fail to be recorded by the police. Second, it is plausible that the probability of being caught for a criminal act is not equal for all individuals, since some (criminal) people and families might be more intensely monitored by the police than others, especially when their family members have lengthy criminal records and are thus well-known to law enforcement officials. Third, a major drawback is the unavailability of all sorts of useful control variables (e.g. socio-economic status, education, housing) which might

DOI: 10.1002/cbm

affect the correlations reported in the present paper. These shortcomings require us to treat the conclusions of the study with great care and force us also to be reluctant in formulating policy implications. Obviously, more research on the intergenerational transmission of criminal behaviour is needed.

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19: 94–108 (2009)
DOI: 10.1002/cbm